

# LEARNING ACTIVITY SHEET

## GRADE 10 SCIENCE

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Rating/Score: \_\_\_\_\_

### FEEDBACK MECHANISMS: KEY TO HOMEOSTASIS

**DIRECTIONS:** This Learning Activity Sheet is about how feedback mechanisms help organisms maintain homeostasis to reproduce and survive. Follow the instructions in each part and answer the guide questions that follow.

#### Part A: HORMONES WORD GAME

Name the hormone that plays a role in the reproductive system by arranging the given set of letters. Write your answer in the space provided.

1. It is the primary sex hormone in males that gives rise to secondary male characteristics such as deeper voice, facial hair, and muscle development.

E O S R E T O T E S N T

2. It stimulates the production of sperm cells in seminiferous tubules in males, and stimulates the egg maturation in the female ovaries.

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L L I C E F O L - S T I M U L A G N I T O R M O N E H

3. It is the hormone released by the ovaries which regulates the condition of the endometrium or the inner lining of the uterus.

S R O R E T O N E G E P

4. It is the hormone secreted by the ovaries and responsible for the development of secondary sex characteristics in females such as the widening of hips and development of breasts.

N S R O T G E E

5. It stimulates the secretion of steroids from the reproductive glands.

Z E U L I N G T I N I

H R O M O N E

#### Think About It!

The reproductive system in both males and females are controlled and regulated by the interaction of hormones from the hypothalamus and pituitary glands with hormones from the reproductive organs. How do these hormones affect the development of male and female reproductive systems?

**Specific Weeks:** 1-3 (LAS 1)

**Target Competency:** Explain the role of hormones involved in the female and male reproductive systems (S10LT-IIIb-34)

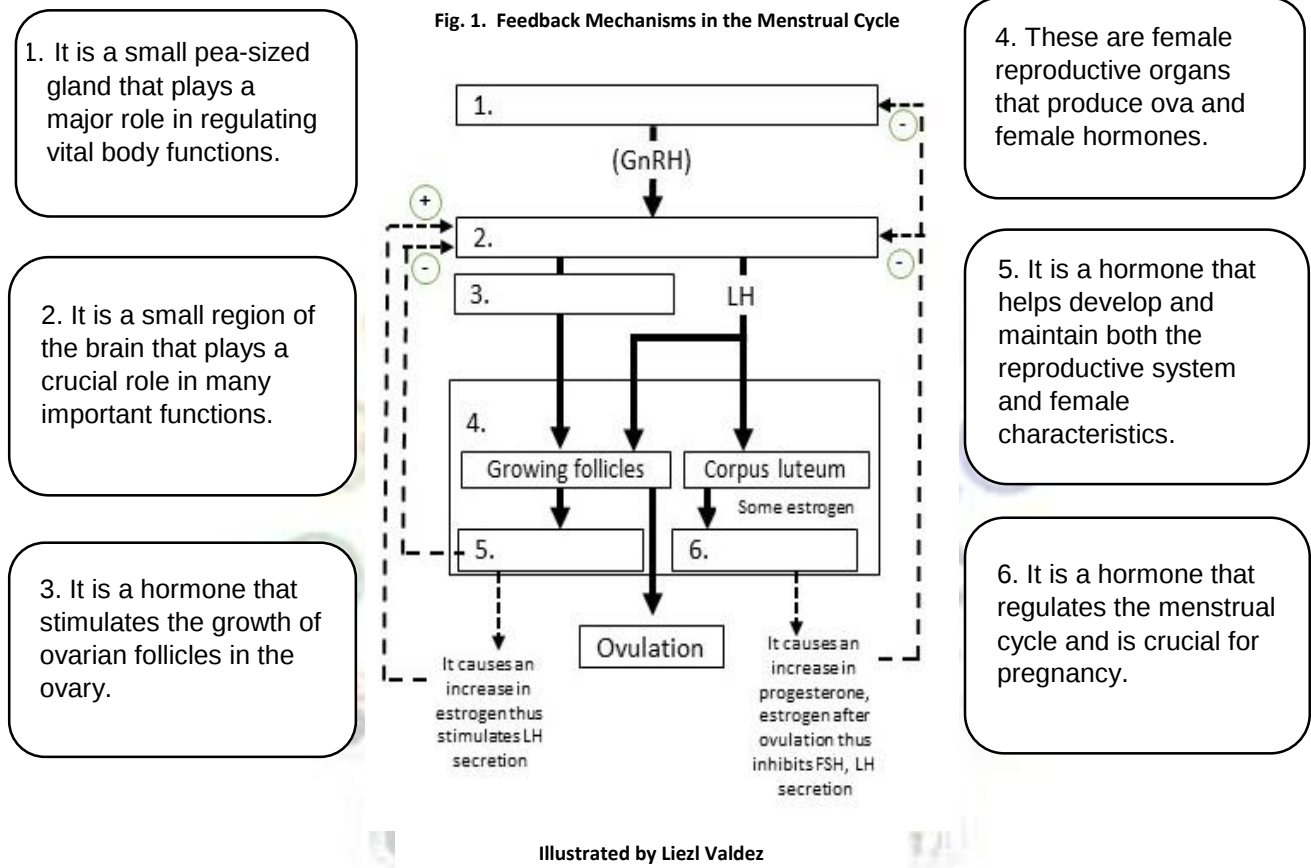
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### Part B: FEEDBACK MECHANISMS IN THE REPRODUCTIVE SYSTEM

Trace the process of feedback mechanisms in the menstrual cycle by filling in the flow chart with the correct words/phrases from terms inside the box. You may use the clues posted on the sides. Then, answer the questions that follow.

**Estrogen, FSH, Progesterone, Ovaries, Hypothalamus, Pituitary Gland**



### Think About It!

- Based on the above diagram, what is the importance of the feedback mechanism in the regulation of the menstrual cycle?
- How does the negative feedback mechanism affect the menstrual cycle?

**Specific Weeks:** 1-3 (LAS 1)

**Target Competency:** Explain the role of hormones involved in the female and male reproductive systems (S10LT-IIIb-34)

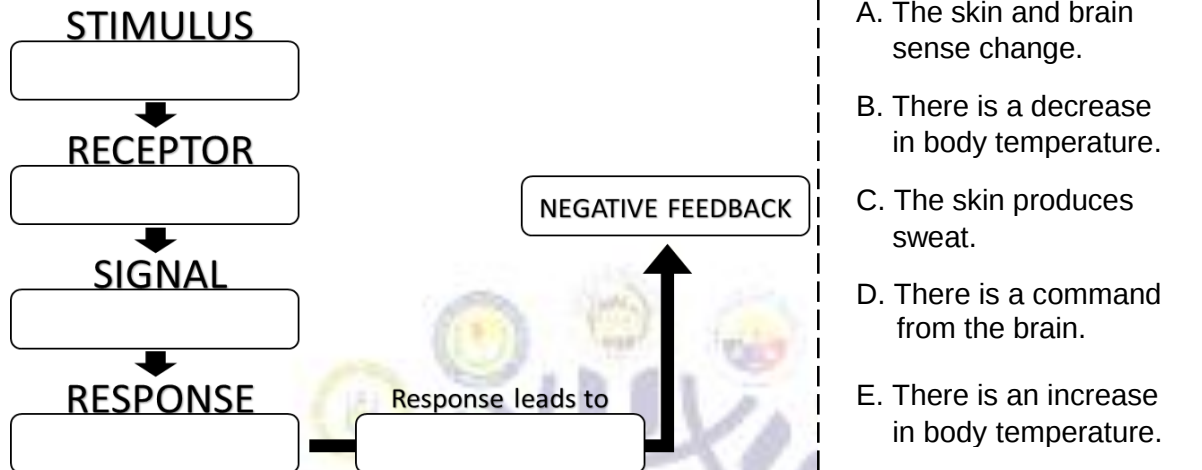
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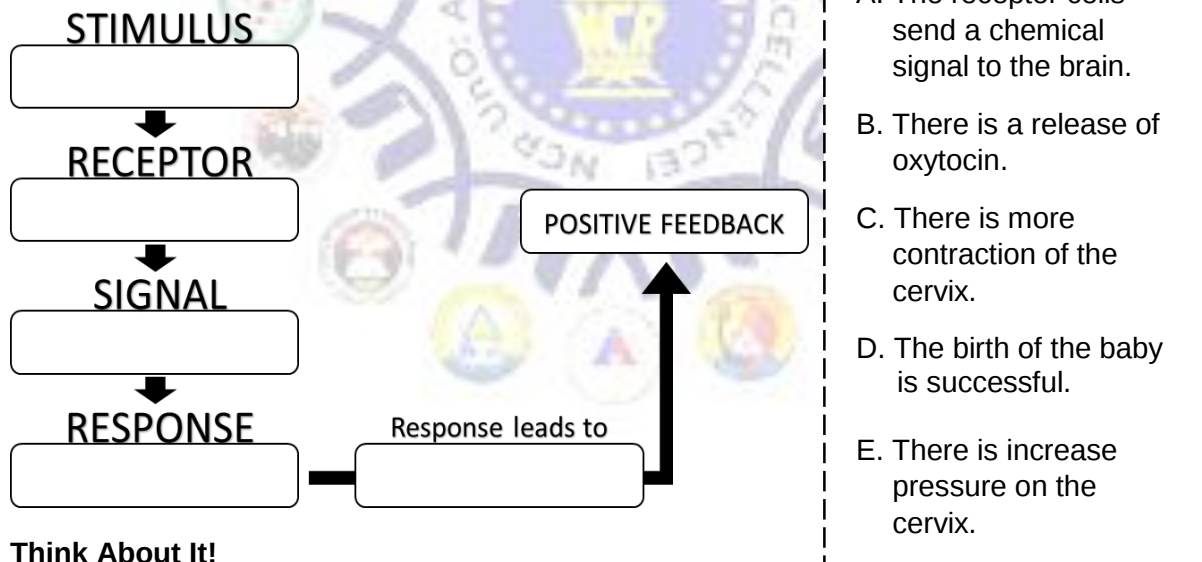
### Part C: POSITIVITY AND NEGATIVITY

Read each situation below and complete the negative and positive feedback loops using the phrases in the box. Write the letter of your answers in the box provided.

**SITUATION 1:** After doing a strenuous activity, you feel that your temperature increases.



**SITUATION 2:** When labor begins, the head of the baby is pushed downward, and this results in contraction of the cervix.



#### Think About It!

1. Based on the first situation, how does the feedback mechanism regulate homeostasis in body temperature?
2. In the second situation, does positive feedback result in homeostasis? Why or Why not?

**Specific Weeks:** 1-3 (LAS 1)

**Target Competency:** Explain the role of hormones involved in the female and male reproductive systems (S10LT-IIIb-34)

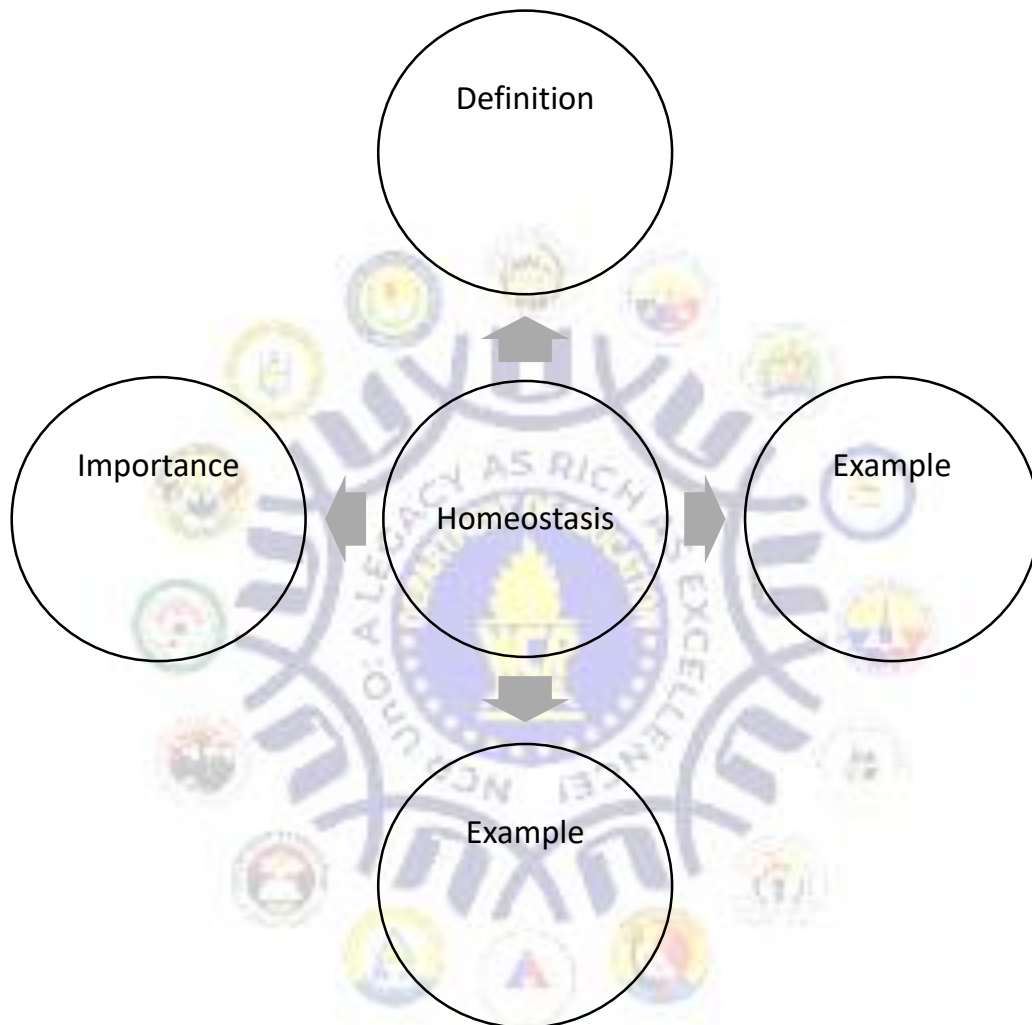
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### Part D: HOMEOSTASIS AND I

Using the Thinking Maps below, summarize the processes and importance of homeostasis. Also, give two examples to illustrate homeostasis.



### Think About It!

How does Nervous System coordinate and regulate these feedback mechanisms in maintaining homeostasis?

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**Specific Weeks:** 1-3 (LAS 1)

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